

## PATENT COOPERATION TREATY -

PCT

## NOTIFICATION RELATING TO PRIORITY CLAIM

(PCT Rules 26bis.1 and 26bis.2 and  
Administrative Instructions, Sections 402 and 409)

From the INTERNATIONAL BUREAU

To:

FREEHILLS CARTER SMITH BEADLE  
101 Collins Street  
Melbourne, VIC 3000  
AUSTRALIE

Date of mailing (day/month/year)

10 January 2001 (10.01.01)

Applicant's or agent's file reference

40448422

## IMPORTANT NOTIFICATION

International application No.

PCT/AU00/01116

International filing date (day/month/year)

15 September 2000 (15.09.00)

Applicant

ELLICE HOLDINGS PTY LTD et al

The applicant is hereby **notified** of the following in respect of the priority claim(s) made in the international application.

- 1.
- ☒
- Correction of priority claim.**
- In accordance with the applicant's notice received on: 13 November 2000 (13.11.00), the following priority claim has been corrected to read as follows:

AU 15 September 1999 (15.09.99) PQ 2815

- ☐ even though the indication of the number of the earlier application is missing.
- ☐ even though the following indication in the priority claim is not the same as the corresponding indication appearing in the priority document:

- 2.
- ☐
- Addition of priority claim.**
- In accordance with the applicant's notice received on: , the following priority claim has been added:

- ☐ even though the indication of the number of the earlier application is missing.
- ☐ even though the following indication in the priority claim is not the same as the corresponding indication appearing in the priority document:

- 3.
- ☐
- As a
- result of the correction and/or addition**
- of (a) priority claim(s) under items 1 and/or 2, the (earliest) priority date is:

- 4.
- ☐
- Priority claim considered not to have been made.**

- ☐ The applicant failed to respond to the invitation under Rule 26bis.2(a) (Form PCT/IB/316) within the prescribed time limit.
- ☐ The applicant's notice was received after the expiration of the prescribed time limit under Rule 26bis.1(a).
- ☐ The applicant's notice failed to correct the priority claim so as to comply with the requirements of Rule 4.10.

The applicant may, before the technical preparations for international publication have been completed and subject to the payment of a fee, request the International Bureau to publish, together with the international application, information concerning the priority claim. See Rule 26bis.2(c) and the PCT Applicant's Guide, Volume I, Annex B2(IB).

- 5.
- ☐
- In case where
- multiple priorities**
- have been claimed, the above item(s) relate to the following priority claim(s):

6. A copy of this notification has been sent to the receiving Office and

- ☐ to the International Searching Authority (where the international search report has not yet been issued).
- ☒ the designated Offices (which have already been notified of the receipt of the record copy).

The International Bureau of WIPO  
34, chemin des Colombettes  
1211 Geneva 20, Switzerland

Facsimile No. (41-22) 740.14.35

Authorized officer

Athina Nickitas-Etienne

Telephone No. (41-22) 338.83.38

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner  
 US Department of Commerce  
 United States Patent and Trademark  
 Office, PCT  
 2011 South Clark Place Room  
 CP2/5C24  
 Arlington, VA 22202  
 ETATS-UNIS D'AMERIQUE  
 in its capacity as elected Office

Date of mailing (day/month/year) 18 May 2001 (18.05.01)	
International application No. PCT/AU00/01116	Applicant's or agent's file reference 40448422
International filing date (day/month/year) 15 September 2000 (15.09.00)	Priority date (day/month/year) 15 September 1999 (15.09.99)
Applicant SMITH, Warrick	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

28 March 2001 (28.03.01)

☐ in a notice effecting later election filed with the International Bureau on:2. The election ☒ was☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Nestor Santesso Telephone No.: (41-22) 338.83.38
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**PATENT COOPERATION TREATY**  
**PCT**  
**INTERNATIONAL PRELIMINARY EXAMINATION REPORT**

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 40448422	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).	
International application No. <b>PCT/AU 00/01116</b>	International filing date ( <i>day/month/year</i> ) <b>15 September 2000</b>	Priority Date ( <i>day/month/year</i> ) <b>15 September 1999</b>
International Patent Classification (IPC) or national classification and IPC  <b>Int. Cl.<sup>7</sup>    B25B 11/00 EO4G 21/16</b>		
Applicant 1. <b>ELLICE HOLDINGS PTY LTD et al</b>		

1.	This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.																
2.	This REPORT consists of a total of <b>3</b> sheets, including this cover sheet.  <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  These annexes consist of a total of    sheet(s).																
3.	This report contains indications relating to the following items: <table style="width: 100%; margin-top: 10px;"> <tr> <td style="width: 5%;">I</td> <td><input checked="" type="checkbox"/> Basis of the report</td> </tr> <tr> <td>II</td> <td><input type="checkbox"/> Priority</td> </tr> <tr> <td>III</td> <td><input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</td> </tr> <tr> <td>IV</td> <td><input type="checkbox"/> Lack of unity of invention</td> </tr> <tr> <td>V</td> <td><input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</td> </tr> <tr> <td>VI</td> <td><input type="checkbox"/> Certain documents cited</td> </tr> <tr> <td>VII</td> <td><input type="checkbox"/> Certain defects in the international application</td> </tr> <tr> <td>VIII</td> <td><input type="checkbox"/> Certain observations on the international application</td> </tr> </table>	I	<input checked="" type="checkbox"/> Basis of the report	II	<input type="checkbox"/> Priority	III	<input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability	IV	<input type="checkbox"/> Lack of unity of invention	V	<input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement	VI	<input type="checkbox"/> Certain documents cited	VII	<input type="checkbox"/> Certain defects in the international application	VIII	<input type="checkbox"/> Certain observations on the international application
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VIII	<input type="checkbox"/> Certain observations on the international application																

Date of submission of the demand <b>28 March 2001</b>	Date of completion of the report <b>05 April 2001</b>
Name and mailing address of the IPEA/AU <b>AUSTRALIAN PATENT OFFICE</b> <b>PO BOX 200</b> <b>WODEN ACT 2606 AUSTRALIA</b> E-mail address: <b>pct@ipaustalia.gov.au</b> Facsimile No. (02) 6285 3929	Authorized Officer  <b>SARAVANAMUTHU PONNAMPALAM</b> Telephone No. (02) 6283 2070

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/AU 00/01116

## 1. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☒ the international application as originally filed.
- ☐ the description,        pages , as originally filed,  
                              pages , filed with the demand,  
                              pages , received on    with the letter of .
- ☐ the claims,        pages , as originally filed,  
                              pages , as amended (together with any statement) under Article 19,  
                              pages , filed with the demand,  
                              pages , received on    with the letter of .
- ☐ the drawings,        pages , as originally filed,  
                              pages , filed with the demand,  
                              pages , received on    with the letter of .
- ☐ the sequence listing part of the description:  
                              pages , as originally filed  
                              pages , filed with the demand  
                              pages , received on    with the letter of .

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.  
These elements were available or furnished to this Authority in the following language    which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, was on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description,        pages
- ☐ the claims,        Nos.
- ☐ the drawings,        sheets/fig

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/AU 00/01116

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims 1-19	YES
	Claims	NO
Inventive step (IS)	Claims 1-19	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-19	YES
	Claims	NO

**2. Citations and explanations (Rule 70.7)**

**NOVELTY (N) and INVENTIVE STEP (IS)**

**A. The documents constituting closest prior art:**

- (i) US 4058335A
- (ii) GB 2326528A
- (iii) US 4401961A,

B. The subject matter of claims 1 and 6 differs from those prior art documents in that the holding device for retaining sheet - material in place against a structure, by the use of a substantially flat magnetic surface and a magnetically receptive surface of the structure.

C. The distinguishing features of the invention will improve the method of retaining sheet materials in position against frame members.

D. Therefore the application satisfies the criteria set forth in PCT Article 33 (2-3) concerning the novelty inventive step of the independent claims 1 and 6.

The criteria concerning novelty and inventive step of claims 2 - 5 and 7 - 19 are satisfied because these claims are dependant on claims 1 and 6.

**INDUSTRIAL APPLICABILITY (IA)**

The invention defined in claims 1- 19 satisfies the Criterion set forth in PCT Article 33 (4).

PATENT COOPERATION TREATY  
**PCT**  
INTERNATIONAL PRELIMINARY EXAMINATION REPORT  
(PCT Article 36 and Rule 70)

REC'D 19 APR 2001

WIPO

PCT

Applicant's or agent's file reference 40448422	<b>FOR FURTHER ACTION</b>	See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416).
International application No. <b>PCT/AU 00/01116</b>	International filing date ( <i>day/month/year</i> ) 15 September 2000	Priority Date ( <i>day/month/year</i> ) 15 September 1999
International Patent Classification (IPC) or national classification and IPC  <b>Int. Cl.<sup>7</sup> B25B 11/00 EO4G 21/16</b>		
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3.	This report contains indications relating to the following items:  I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 28 March 2001	Date of completion of the report 05 April 2001
Name and mailing address of the IPEA/AU AUSTRALIAN PATENT OFFICE PO BOX 200 WODEN ACT 2606 AUSTRALIA E-mail address: <a href="mailto:pct@ipaustalia.gov.au">pct@ipaustalia.gov.au</a> Facsimile No. (02) 6285 3929	Authorized Officer  SARAVANAMUTHU PONNAMPALAM Telephone No. (02) 6283 2070

**I. Basis of the report****1. With regard to the elements of the international application:\***

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- ☐ the description,      pages      , as originally filed,  
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                                 pages      , as amended (together with any statement) under Article 19,  
                                 pages      , filed with the demand,  
                                 pages      , received on      with the letter of      .
- ☐ the drawings,      pages      , as originally filed,  
                                 pages      , filed with the demand,  
                                 pages      , received on      with the letter of      .
- ☐ the sequence listing part of the description:  
                                 pages      , as originally filed  
                                 pages      , filed with the demand  
                                 pages      , received on      with the letter of      .

**2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.**

These elements were available or furnished to this Authority in the following language      which is:

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**3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, was on the basis of the sequence listing:**

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
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\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Claims 1-19	YES
	Claims	NO
Inventive step (IS)	Claims 1-19	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-19	YES
	Claims	NO

**2. Citations and explanations (Rule 70.7)**

**NOVELTY (N) and INVENTIVE STEP (IS)**

**A. The documents constituting closest prior art:**

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**B.** The subject matter of claims 1 and 6 differs from those prior art documents in that the holding device for retaining sheet - material in place against a structure, by the use of a substantially flat magnetic surface and a magnetically receptive surface of the structure.

**C.** The distinguishing features of the invention will improve the method of retaining sheet materials in position against frame members.

**D.** Therefore the application satisfies the criteria set forth in PCT Article 33 (2-3) concerning the novelty inventive step of the independent claims 1 and 6.

**E.** The criteria concerning novelty and inventive step of claims 2 - 5 and 7 - 19 are satisfied because these claims are dependant on claims 1 and 6.

**INDUSTRIAL APPLICABILITY (IA)**

The invention defined in claims 1- 19 satisfies the Criterion set forth in PCT Article 33 (4).



CORRECTED VERSION

10/088388

(19) World Intellectual Property Organization  
International Bureau



(43) International Publication Date  
22 March 2001 (22.03.2001)

PCT

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(51) International Patent Classification<sup>7</sup>: B25B 11/00,  
E04G 21/16

[AU/AU]; 5 Elwood Street, Golden Square, VIC 3555  
(AU).

(21) International Application Number: PCT/AU00/01116

(74) Agent: FREEHILLS CARTER SMITH BEADLE; 101  
Collins Street, Melbourne, VIC 3000 (AU).

(22) International Filing Date:  
15 September 2000 (15.09.2000)

(25) Filing Language: English

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PQ 2815 15 September 1999 (15.09.1999) AU

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HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR,  
LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ,  
NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM,  
TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(71) Applicant (*for all designated States except US*): ELLICE  
HOLDINGS PTY LTD [AU/AU]; 5 Elwood Street,  
Golden Square, VIC 3555 (AU).

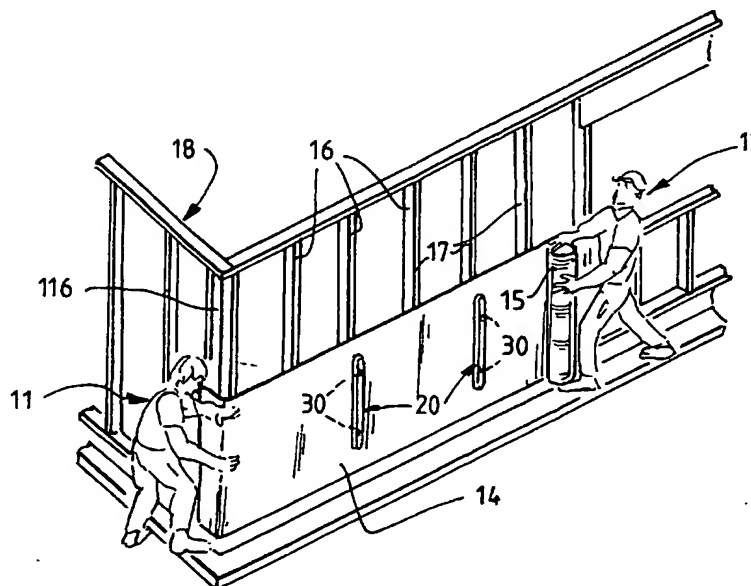
(84) Designated States (*regional*): ARIPO patent (GH, GM,  
KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian  
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patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE,  
IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG,  
CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).

(72) Inventor; and

(75) Inventor/Applicant (*for US only*): SMITH, Warrick

[Continued on next page]

(54) Title: MAGNETIC HOLDING DEVICE AND METHOD



RECEIVED  
APR 03 2003  
GROUP 3600

(57) Abstract: A magnetic holding device (20) is provided comprising an elongate housing (22) containing a plurality of magnets (30) located at longitudinally spaced apart locations (28) of the housing (22). The device (20) thus has magnetic surfaces (31) for holding a sheet material (14) to a magnetically receptive surface of a steel frame member (16, 19) of a wall or roof framework for a building before the sheet material (14) is permanently secured to the frame member (16, 19). The elongate housing (22) also includes at least one adjustable retaining member (40) having a lip (44) for engagement with a side surface of the frame member (16, 19) to help prevent the holding device (20) and sheet material (14) from slipping relative to the frame member (16, 19), e.g. in windy conditions.

WO 01/019569 A1



**Published:**

— with international search report

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

**(48) Date of publication of this corrected version:**

6 September 2002

**(15) Information about Correction:**

see PCT Gazette No. 36/2002 of 6 September 2002, Section II

- 1 -

## MAGNETIC HOLDING DEVICE AND METHOD

This invention relates to a device and method for holding materials in place against a structure and is particularly, but not exclusively, concerned with retaining sheet materials in position against frame members of a building framework so that the sheet material can be secured to the frame members.

In the building industry it is often necessary to fasten sheets of material, such as insulating paper or sarking, to frame members of a wall or roof before the wall or roof is cladded or covered. When the sheet material is dispensed from a roll it can be difficult to hold the sheet material in position, particularly in windy conditions, until the sheet is secured to the wall or roof members, for instance by an adhesive or other fastening means.

It is therefore desirable to provide an effective holding device and method for holding materials, such as sheet materials, in position against a surface or framework of a building.

According to one aspect of the invention, there is provided a method of attaching a sheet material to a structure, said method comprising:

providing a plurality of magnetic holding devices each comprising a housing including at least one magnet and having a substantially flat magnetic surface on or in close proximity to said magnet;

placing the sheet material against at least one magnetically receptive surface of the structure;

placing said magnetic holding devices with said substantially flat magnetic surface against the sheet material to hold the sheet material in position between the magnetic surfaces of the holding devices and said at least one magnetically receptive surface of the structure so that the sheet material can be secured to the structure.

The magnetic holding devices preferably comprise elongate members, such as rods or tubes, each including at least one magnet. Preferably, each magnetic holding device has a plurality of magnets located at spaced intervals along the elongate member. At least some of the magnetic holding devices are preferably provided with at least one retaining member having a retaining

- 2 -

surface extending along the elongate member at an angle, preferably generally perpendicularly to the substantially flat magnetic surface. The retaining members assist in preventing the magnetic holding devices and the sheet material from slipping relative to the frame members of the structure by engaging with surfaces of the frame members which extend at an angle to the magnetically receptive surface.

According to another aspect of the invention, there is provided a magnetic holding device comprising an elongate member including at least one magnet and having a substantially flat magnetic surface on or in close proximity to said magnet, whereby the elongate member is adapted to hold material between a magnetically receptive surface and said substantially flat surface, wherein at least one retaining member is provided on the elongate member, the retaining member having a retaining surface extending from the elongate member at an angle to the substantially flat magnetic surface.

The retaining member may be formed integrally with, or attached to an elongate housing for the magnet or magnets of the magnetic holding device. In a particularly preferred embodiment, an adjustable retaining member is provided having a part movable between an extended position in which it presents a lip having said retaining surface extending outwardly from the housing generally perpendicularly to the substantially flat magnetic surface, and a retracted position.

In one particularly preferred embodiment, the elongate member comprises a housing containing at least one pair of permanent magnets at longitudinally spaced apart positions of the elongate member. A piece of ferromagnetic material may be provided within the housing extending between said at least one pair of magnets so that when the elongate member holds a sheet against a ferromagnetic structural member, a strong magnetic circuit is created within the magnetic holding device and within the structural member, resulting in a stronger holding force on the sheet of material.

According to a further aspect of the invention, there is provided a magnetic holding device comprising an elongate housing member containing at

- 3 -

least one pair of magnets at longitudinally spaced apart positions of the elongate housing member, and a ferromagnetic material extending between the pair of magnets within the housing.

5 The elongate member housing the magnet or magnets may be made of any convenient material, such as a wooden or plastics material. The or each magnet may be mounted on or received within a recess in the surface of the elongate member, with a surface of the magnet forming said substantially flat magnetic surface. Alternatively, the magnet or magnets may be housed within the elongate housing with a magnetic surface of the magnet being disposed in  
10 close proximity to a substantially flat outer surface of the elongate member forming said substantially flat magnetic surface of the device.

In one preferred use of the magnetic holding device, the elongate member is used to hold sheet material to surfaces of ferromagnetic frame members of a wall or roof framework, such as wall studs or roof purlins. The  
15 sheet material may be rolled into position against substantially flat magnetically receptive surfaces of the frame members with the holding devices being used to hold the sheet material in place until the sheet material is secured to the wall studs or roof purlins, e.g. by an adhesive or by fasteners.

When the magnetic holding devices are used in this manner, at least  
20 some of the holding devices may be positioned with retaining surfaces of the retaining members abutting against a side surface of a respective frame member that extends at an angle to the front surface of the frame member against which the sheet material is held. The retaining members thus help to prevent the magnetic holding devices and sheet material from slipping relative to the frame  
25 members.

Some preferred embodiments of the present invention will now be described, by way of example only, with reference to the accompanying drawings, in which:

Figure 1 is a perspective view illustrating a method of attaching sheet  
30 material to a wall framework in accordance with the invention;

- 4 -

Figure 2 is a perspective view illustrating a method of attaching sheet material to a roof framework in accordance with the invention;

Figure 3 is a side perspective view of a magnetic holding device in accordance with the invention;

5        Figure 4 is a cross-section on the line 4-4 of Figure 3;

Figure 5 is a cross-section on the line 5-5 of Figure 3;

Figure 6 is an opposite side view of an end of the magnetic holding device of Figure 3 including an adjustable retaining member;

10       Figure 7 is a view similar to Figure 6 showing the retaining member in an extended position;

Figure 8 is a section on the line 8-8 of Figure 6;

Figure 9 is a section on the line 9-9 of Figure 7; and

Figure 10 is a side view of another embodiment of a magnetic holding device in accordance with the invention; and

15       Figure 11 is a side view of a modified embodiment similar to that of Figure 10.

Figure 1 illustrates two tradespersons 11, 12 utilising magnetic holding devices 20 in accordance with the invention to attach a sheet of insulating material 14 to vertical frame members 16 of a steel framework 18 of a building  
20 in accordance with the method of the present invention.

In the method of the invention, as shown in Figure 1, one trades-person 11 is holding one end of the sheet material 14 as the other tradesperson 12 unrolls the sheet material from a roll 15, alongside front surfaces 17 of steel frame members or wall studs 16. As the sheet material is unrolled, the magnetic  
25 holding devices 20 which comprise elongate rods containing magnets 30 are used to hold the sheet material 14 in position with the sheet material sandwiched between magnetic surfaces of the holding devices 20 and magnetically receptive front surfaces 17 of the steel frame members or wall studs 16.

Referring to Figure 2, there is illustrated a similar method in which the  
30 tradespersons 11, 12 are utilising magnetic holding devices 20 to hold a sheet of

- 5 -

insulating material 14 to generally horizontally extending roof frame members or purlins 19 of a steel roof framework of a building.

Figures 3 to 9 show one preferred form of magnetic holding device 20 in accordance with the invention. The magnetic holding device 20 is in the form of an elongate rod having a pair of magnets 30 contained in an elongate housing 22. The elongate housing 22 may be conveniently formed from a molded plastics material, although the housing may be formed from other materials, such as wood or a metal such as aluminium. As shown in Figures 3 to 7, the elongate housing has an upper bulbous part 24 with rounded sides and a lower, narrower part 26 so that the magnetic holding device may be conveniently grasped by a user. Two short tubular extensions 28 extend from the lower surfaces of the part 26 and have recesses 29 within which the magnets 30 are housed. The lower surfaces 31 of the tubular extensions 28 thus provide substantially flat magnetic surfaces at longitudinally spaced apart locations of the housing 22.

Figure 5 shows the magnetic holding device 20 in use with the sheet material 14 held between the magnetically receptive front or upper surface 17 of a steel wall member 16 or roof member 19 and a magnetic surface 31 of the magnetic holding device 20.

A particularly advantageous feature of the magnetic holding device of the present invention is illustrated in Figures 6 to 9 which show an adjustable retaining member 40 provided on one side of the elongate housing 22 towards one end of the housing 22. Another similar retaining member 40 may be provided at the other end of the housing 22. The adjustable retaining member 40 comprises a circular body part 42 and a lip part 44 extending from one side of the body part 42. The circular body part 42 is attached to a side of the lower part 26 of the housing 22 by a threaded bolt 45 having an enlarged head 46 with a hexagonal recess 47 for receiving an a hexagonal key for tightening the bolt 45 in a threaded recess 48 in the side of the lower body part 26. The bolt 45 is preferably tightened to a sufficient extent to secure the adjustable retaining member 40 to the housing 22 while allowing the retaining member to rotate

- 6 -

through approximately 90° about the axis of the bolt 45 between a retracted position as shown in Figures 6 and 8 and an extended position as shown in Figures 7 and 9. In the retracted position of Figures 6 and 8, the lip part 44 extends from the circular body part 42 substantially in the longitudinal, direction of the elongate housing 22, whereas in the extended position of  
5 Figures 7 and 9, the lip part 44 extends downwardly from the lower part 26 of the housing 22 for a greater distance than the short tubular extensions 28. The lip part 44 of the adjustable retaining member 40 may also have a ridge or rib 49 extending radially outwards from the circular body part 42 to assist a user in  
10 moving the retaining member 40 between its retracted and extended positions.

Referring more particularly to Figure 9, the lip part 44 in its extended position presents a retaining surface 41 extending beyond and generally perpendicularly to the substantially flat magnetic surface 31 of the holding device 20 for engagement with a side surface 39 of the steel wall member 16 or  
15 roof member 19 with the sheet material 14 therebetween. Figure 9 shows the sheet material 14 slightly depressed by the lip part 44 before it continues on to the next wall or roof member 16, 19 but it will be appreciated that the holding device 20 with the extended lip part 44 is also suitable for retaining the sheet material 14 to a corner member 116 of a steel framework 18 of a building.

20 The extended lip part 44 of the retaining member 40 helps to prevent the magnetic holding device 20 and the sheet material 14 from slipping relative to the wall or roof members 16, 19 and is particularly useful in windy outdoor conditions.

Figure 10 shows another embodiment of a magnetic holding device 50  
25 mounted on an elongate tube or rod 51. The magnetic holding device 50 comprises an elongate tubular body part 52 and a pair of spaced cylindrical magnet housing members 54 extending outwardly from the body part 52 in a direction substantially perpendicularly to the axis of the tube or rod 51. The tubular body part 52 is slidably mounted on the tube or rod 51 and can be  
30 secured in a desired position on the rod 51 by a screw 53.



- 7 -

The ends of the magnet housing members 54 have recesses 55 which house a pair of magnets 56 so that the end surfaces of the housing members 54 form magnetic surfaces 57 which are attracted to a magnetically receptive surface 61 of a steel frame member 60 to hold a sheet material 14 between the surfaces 57 and 61.

It will be appreciated that a plurality of the magnetic holding devices 51 may be mounted on an elongate tube or rod 51 for holding a sheet material 14 of large dimensions.

As shown in Figure 10, an adjustable retaining member 62 is mounted on each of the magnet housing members 54. Each adjustable retaining member 62 comprises a sleeve slidably mounted on a respective cylindrical housing member 54 and movable between a retracted position (as shown on the left hand side of Figure 10) and an extended position (as shown on the right hand side of Figure 10). In the extended position, a lip part 64 of the sleeve 62 extends beyond the magnetic surface 57 of the respective housing member 54 to present a lip surface for engagement with a side surface of the steel frame member 60 to help prevent the magnetic holding device 50 from slipping relative to the frame member 60, e.g. in windy conditions.

Each slidable retaining sleeve 62 may be secured in either its retracted or extended position by a screw 66 extending through a slot 67 in a lug 68 on the side of the magnet housing member 54.

Referring to Figure 11, there is shown a modified embodiment of a magnetic holding device 50 which is similar to that of Figure 10 with the retaining members 60 omitted so that the modification can be illustrated more clearly. Otherwise corresponding reference numerals have been applied to corresponding parts of Figure 10. The device 50 differs from that of Figure 10 in that a ferromagnetic element 70 in the form of a U-shaped piece of ferromagnetic material extends between the magnets 56 in the cylindrical magnet housing members 54. Also, the pair of magnets 56 are arranged so that the south pole of one magnet 56 forms or is adjacent the magnetic surface 57 of

- 8 -

one housing member 54 and the north pole of the other magnet 56 forms or is adjacent the magnetic surface 57 of the other housing member 54.

In use, when the magnetic holding device 50 of Figure 11 is used to hold a piece of sheet material 14 to a steel structural member 60, a strong magnetic  
5 circuit is created in the U-shaped piece 70 of ferromagnetic material and in the steel structural member 60 which assists in holding the sheet material 14 more securely to the steel member 60.

The present invention thus provides an effective holding device and method for holding sheet materials to a structure whilst the preferred  
10 embodiment is described with reference to holding an insulating sheet to frame members of a steel framework of a building, the devices and method may also be used for holding other types of sheet material, such as shade cloth, hessian and even thin sheets of plyboard etc to structural members. It is also envisaged that the holding devices may have many other applications outside the building  
15 industry.

It will be appreciated that various other modifications may be made to the preferred embodiments described above without departing from the scope and spirit of the present invention. For instance, the retaining members on the holding device may be fixed to the housing of the device in a permanently  
20 extended position, although an adjustable retaining member is preferred for situations when it is not desirable to have a permanent retaining lip projecting from the housing.

- 9 -

## CLAIMS

1. A method of attaching a sheet material to a structure, said method comprising:
  - providing a plurality of magnetic holding devices each comprising a housing including at least one magnet and having a substantially flat magnetic surface on or in close proximity to said magnet;
  - placing sheet material against at least one magnetically receptive surface of the structure;
  - placing said magnetic holding devices with said substantially flat magnetic surface against the sheet material to hold the sheet material in position between the magnetic surfaces of the holding devices and said at least one magnetically receptive surface of the structure so that the sheet material can be secured to the structure.
2. A method according to claim 1 wherein each magnetic holding device comprises an elongate member including one or more magnets.
3. A method according to claim 2 wherein the elongate member houses a plurality of magnets located at spaced intervals along the elongate housing.
4. A method according to any one of claims 1 to 3 wherein the structure has a plurality of spaced frame members of ferromagnetic material, and the sheet material is held between the magnetic surfaces of the holding devices and magnetically receptive surfaces of the frame members.
5. A method according to claim 4 wherein at least some of the magnetic holding devices are provided with at least one retaining member having a part with a retaining surface extending from the housing at an angle to the substantially flat magnetic surface for engagement with a surface of one of the frame members extending at an angle to the magnetically receptive surface of the frame member.

- 10 -

6. A magnetic holding device comprising an elongate member including at least one magnet and having a substantially flat magnetic surface on or in close proximity to the magnet, whereby the elongate member is adapted to hold material between said magnetic surface and a magnetically receptive surface;

wherein at least one retaining member is provided on the elongate member, the retaining member having a retaining surface extending from the elongate member at an angle to the substantially flat magnetic surface.

7. A magnetic holding device according to claim 6 wherein the retaining member is integral with the elongate member of the magnetic holding device.

8. A magnetic holding device according to claim 6 wherein the retaining member is attached to the elongate member of the magnetic holding device.

9. A magnetic holding device according to claim 8 wherein the retaining member is adjustable having a lip part movable between an extended position in which the lip part presents a retaining surface extending outwardly from the elongate member generally perpendicularly to the substantially flat magnetic surface, and a retracted position.

10. A magnetic holding device according to any one of claims 6 to 9 wherein the elongate member comprises a housing containing at least one pair of magnets at longitudinally spaced apart positions of the elongate member.

11. A magnetic holding device according to claim 10 wherein the housing comprises an elongate rod having retaining members provided at each end of the rod.

- 11 -

12. A magnetic holding device according to claim 10 wherein the housing is of tubular form for mounting on a rod or tube, the housing having a pair of magnet housing members extending outwardly from the tubular housing.

5 13. A magnetic holding device according to claim 12 wherein retaining members in the form of sleeves with end lip parts are mounted on the magnet housing members.

10 14. A magnetic holding device according to claim 10, wherein ferromagnetic material is provided between said at least one pair of magnets within the housing.

15 15. A magnetic holding device comprising an elongate housing member containing at least one pair of magnets at longitudinally spaced apart positions of the elongate housing member, and ferromagnetic material provided between the pair of magnets within the housing.

16. A magnetic holding device according to any one of claims 6 to 15 wherein the elongate member is made of wooden or plastics material.

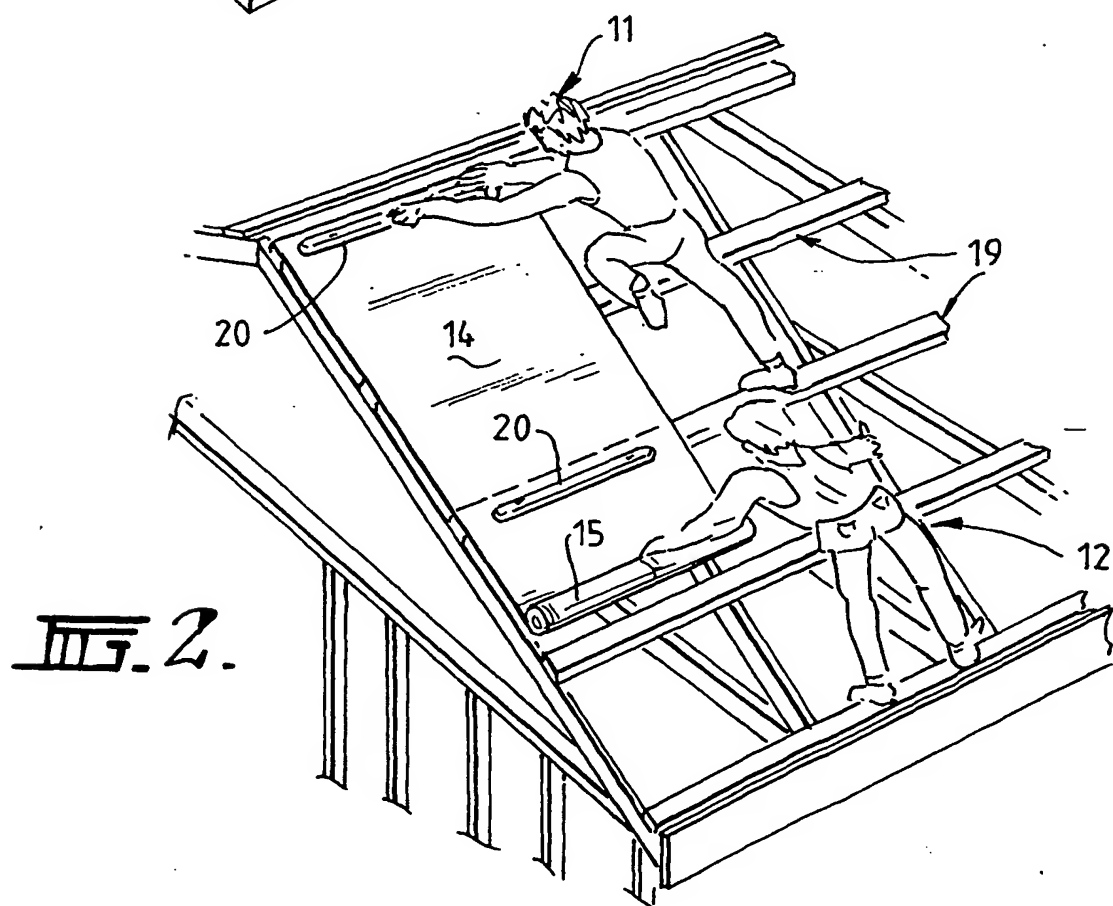
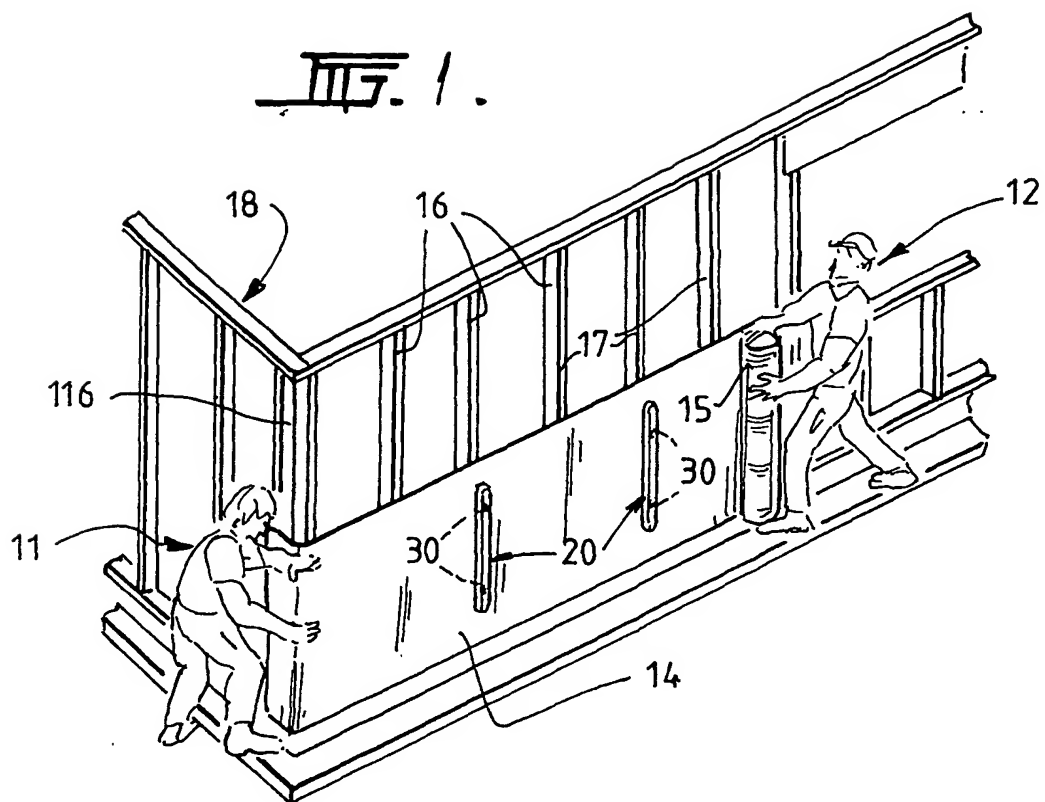
20 17. A magnetic holding device according to any one of claims 6 to 16 wherein the or each magnet is mounted on a surface of the elongate member.

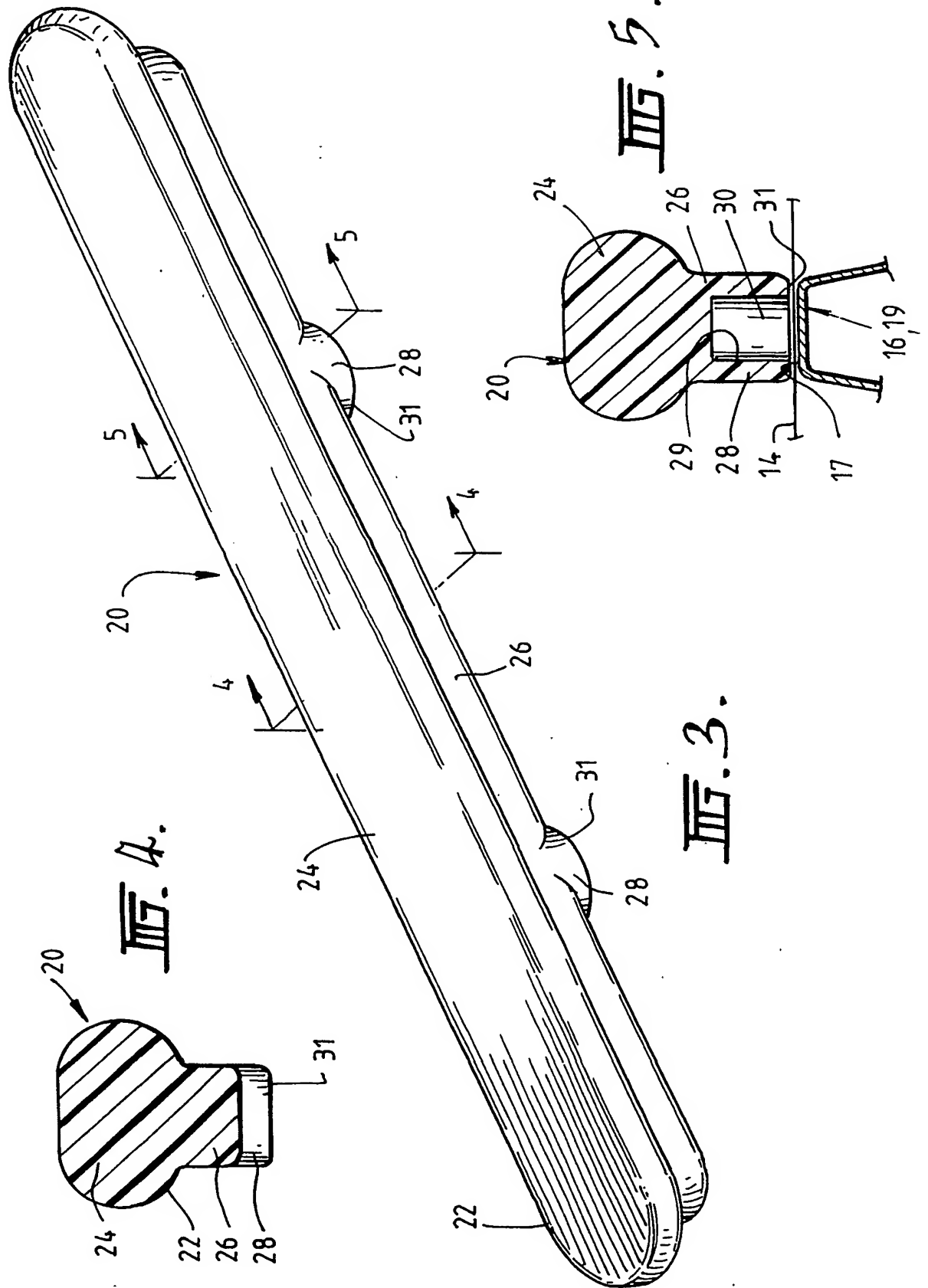
25 18. A magnetic holding device according to any one of claims 6 to 16 wherein the or each magnet is mounted within a recess in the elongate member, with a surface of the magnet forming the substantially flat magnetic surface of the device.

30 19. A magnetic holding device according to any one of claims 6 to 16 wherein the or each magnet is housed within the elongate member with a

- 12 -

magnetic surface of the magnet being in close proximity to a surface of the elongate member forming said substantially flat magnetic surface of the device.







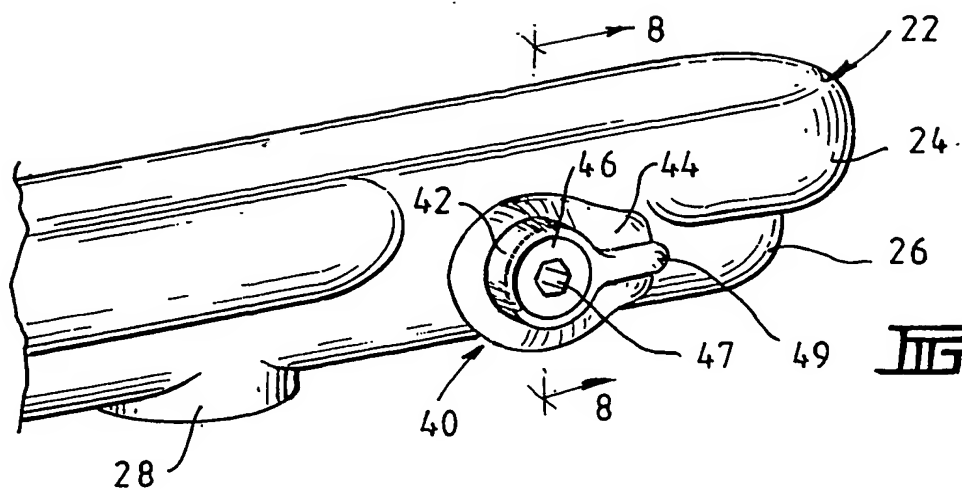


FIG. 6.

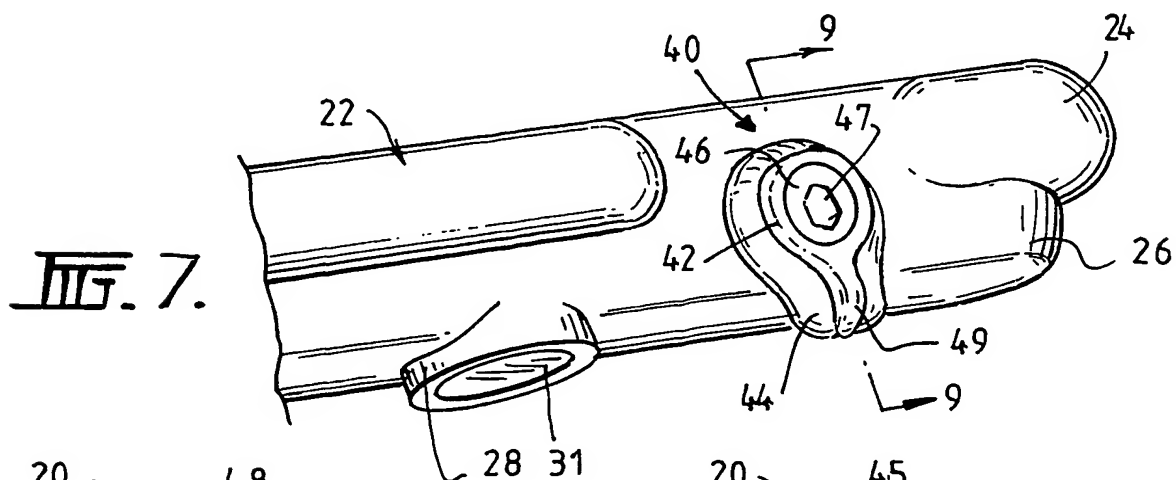


FIG. 7.

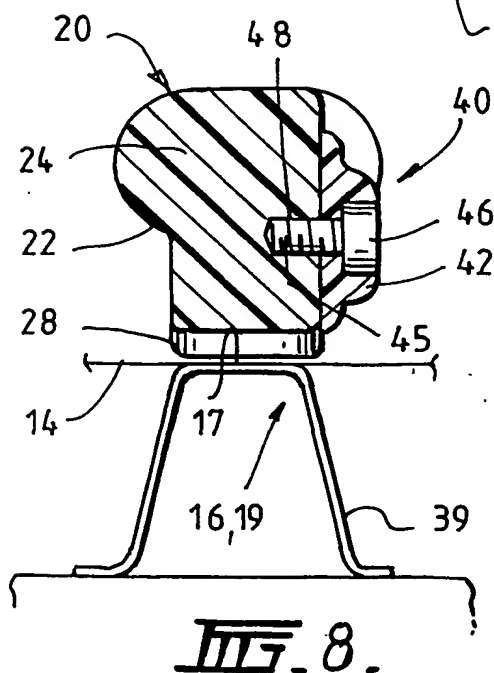


FIG. 8.

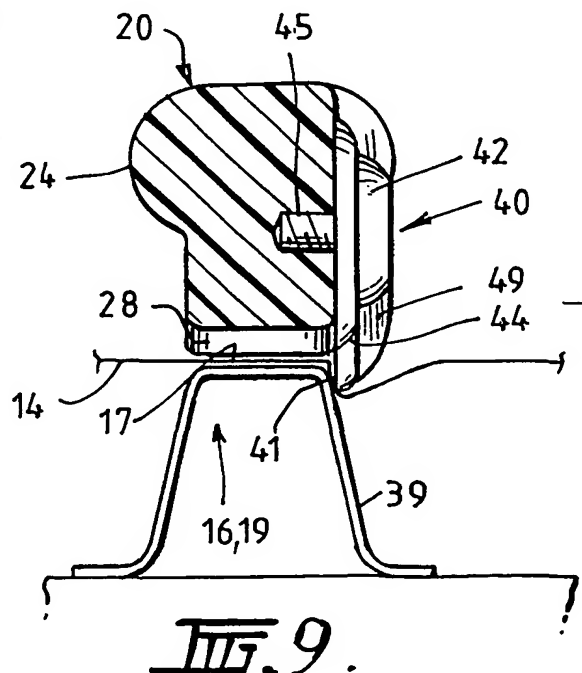


FIG. 9.

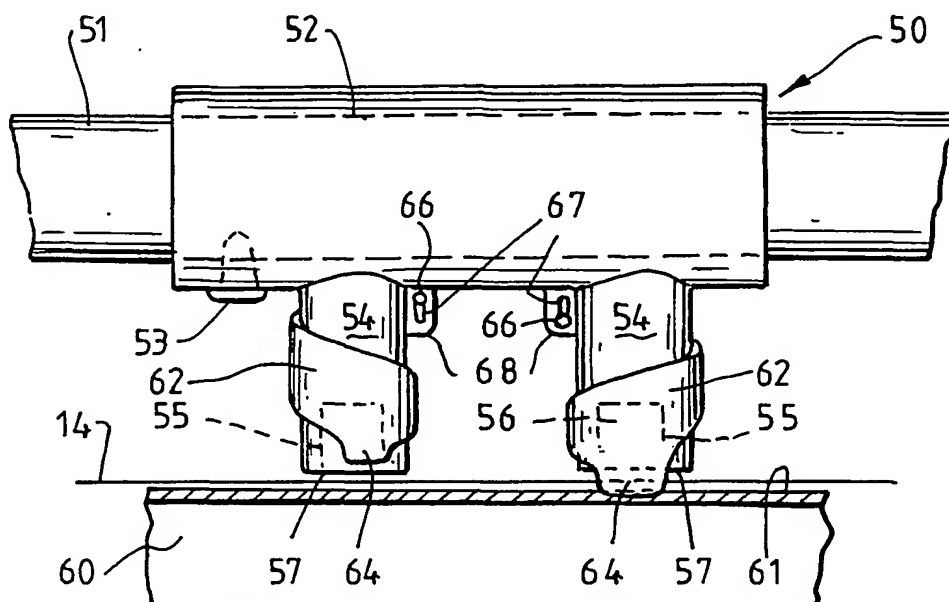


FIG. 10.

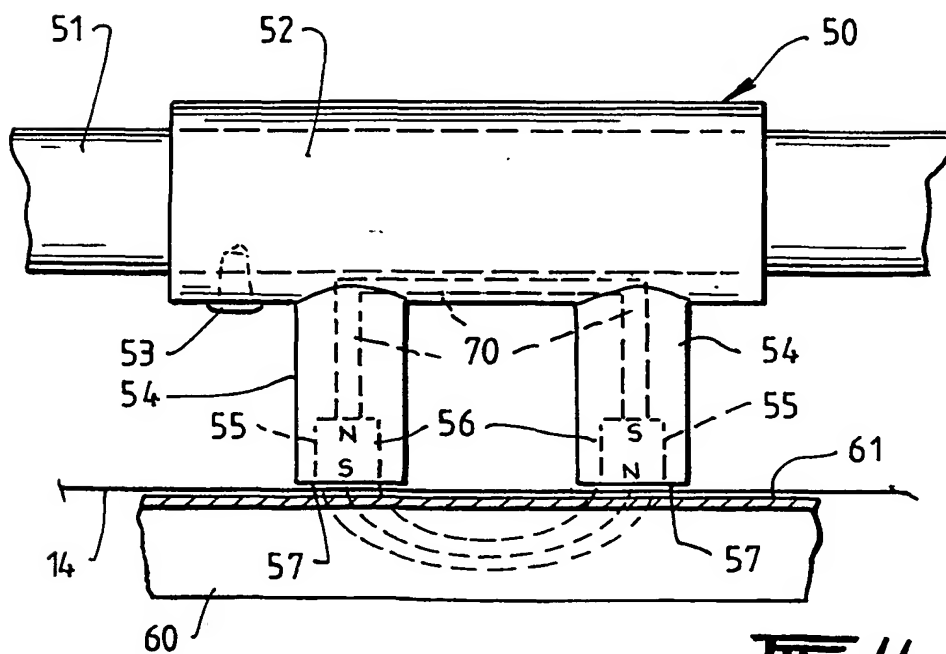


FIG. 11.

## INTERNATIONAL SEARCH REPORT

International application No.  
PCT/AU 00/01116

<b>A. CLASSIFICATION OF SUBJECT MATTER</b>		
Int Cl <sup>7</sup> : B25B 11/00 E04G 21/16		
According to International Patent Classification (IPC) or to both national classification and IPC		
<b>B. FIELDS SEARCHED</b>		
Minimum documentation searched (classification system followed by classification symbols) IPC: B25B 11/00 E04G 21/16		
Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched AU: IPC as above		
Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)		
<b>C. DOCUMENTS CONSIDERED TO BE RELEVANT</b>		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4058335A (ABE) 15 November 1977 Whole document	1-19
A	GB 2326528A(ECLIPSE MAGNETICS LTD) 23 December 1998 Whole document	1-19
P, A	US 5971379A (LEON, JR) 26 October 1999 Whole document	1-19
<input checked="" type="checkbox"/> Further documents are listed in the continuation of Box C <input checked="" type="checkbox"/> See patent family annex		
<p>* Special categories of cited documents:</p> <p>"A" Document defining the general state of the art which is not considered to be of particular relevance</p> <p>"E" earlier application or patent but published on or after the international filing date</p> <p>"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)</p> <p>"O" document referring to an oral disclosure, use, exhibition or other means</p> <p>"P" document published prior to the international filing date but later than the priority date claimed</p> <p>"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention</p> <p>"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone</p> <p>"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art</p> <p>"&amp;" document member of the same patent family</p>		
Date of the actual completion of the international search 31 October 2000		Date of mailing of the international search report - 8 NOV 2000
Name and mailing address of the ISA/AU AUSTRALIAN PATENT OFFICE PO BOX 200 WODEN ACT 2606 AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile No.: (02) 6285 3929		Authorized officer  SARAVANAMUTHU PONNAMPALAM Telephone No.: (02) 6283 2070

## INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU 00/01116

C (Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT		
Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	US 4401961A (BAERMANN.et al) 30 August 1983 Whole document	1-19
A	GB 2211355A (JAMES NEILL HOLDINGS) 28 June 1989 Whole document	1-19
A	EP 0576699A (CHIU) 5 January 1994 Whole document	1-19
A	US 5921058A (BROOKER) 13 July 1999 Whole document	1-19

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/AU 00/01116

## Information on patent family members

This Annex lists the known "A" publication level patent family members relating to the patent documents cited in the above-mentioned international search report. The Australian Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent Document Cited in Search Report			Patent Family Member	
US	4058335	NONE		
GB	2326528	NONE		
US	5971379	NONE		
US	4401961	CA	1181476	
GB	2211355	NONE		
EP	576699	NONE		
US	5921058	NONE		
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